

OPTICAL STUDIES IN HIGH T_c SUPERCONDUCTORS**H.D. BIST****DEPARTMENT OF PHYSICS, IIT, KANPUR, INDIA**

Several systems of oxide superconductors have emerged during the last two years. The La-Ba-Cu-O, $YBa_2Cu_3O_{7-x}$, Bi-Ca-Sr-Cu-O and Tl-Ca-Ba-Cu-O systems have primarily been investigated employing various physicochemical properties. The structural (X-ray, neutron and the electron diffraction), the electrical, magnetic and transport properties, the normal EPR and the near zero-field microwave absorption, the NMR, NQR, Mossbauer, photo emission, electron energy loss, the visible, UV, infrared and Raman studies have been published this year on those high T_c materials. Attempts have been made to put forward theoretical models to comprehend the experimental data.

Due to several variables involved, both the experimental and theoretical situations are far from satisfactory. The optical, infrared, UV-VIS and microwave spectroscopic data will be presented with a view to comprehend the phenomena. The theoretical background for the studies will also be reviewed in these talks.